

Configure an ODBC Connection to SAP HANA

Abstract

You can connect to an SAP HANA database using ODBC. This article explains how to configure an ODBC connection for SAP HANA in PowerCenter, the Administrator tool, the Developer tool, and the Analyst tool.

Supported Versions

- Data Explorer 9.5.1
- Data Quality 9.5.1
- Data Services 9.5.1
- PowerCenter 9.5.1
- PowerExchange 9.5.1

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Overview

Effective in version 9.5.1, you can use Informatica clients to read data from and write data to an SAP HANA database. To read from and write to SAP HANA, you must configure a connection to the SAP HANA database. You can configure connections to SAP HANA in Informatica.

Configure connections to SAP HANA so that you can complete the following tasks:

Create physical data objects and preview data.

Informatica clients communicate with the SAP HANA database when you create sources and targets, create physical data objects, or preview data. Informatica clients use ODBC to communicate with SAP HANA databases.

Perform data integration tasks.

The PowerCenter Integration Service and the Data Integration Service perform data integration tasks that read from and write to SAP HANA databases and perform lookups against SAP HANA databases. For example, the PowerCenter Integration Service might

read source data from SAP HANA when you run a session. The Integration Services use ODBC to communicate with SAP HANA databases.

To configure connections to SAP HANA, complete the following tasks:

1. Install the SAP HANA ODBC driver.
2. Create ODBC data sources.
3. Create ODBC connections in the Informatica client tools.

After you create ODBC connections in the client tools, you can create objects that represent SAP HANA data structures such as tables and views.

Step 1. Install the SAP HANA ODBC Driver

SAP HANA ODBC drivers are packaged with the SAP HANA client software. Install the client software for the SAP HANA database system. The client software includes the drivers needed to connect to the database. Install the SAP HANA database client, version 1.00.49 or later.

Download the SAP HANA client software from the SAP Software Download Center. You must have an account with SAP to download the software.

In the United States, you can download the SAP HANA client from the following site:

<https://hanadeveditionsapic1.hana.ondemand.com/hanadevedition/>

Install the SAP HANA client software on the following machines:

- Servers where the PowerCenter Integration Service or the Data Integration Service run.
- Machines where Informatica client software is installed.

Step 2. Create ODBC Data Sources

After you install the necessary components, you must create an ODBC data source for each SAP HANA database to which you want to connect.

A data source contains connection credentials that you need to locate and access the database, such as database name, user name, and database password.

Create ODBC data sources on the following machines:

- Servers where the PowerCenter Integration Service or the Data Integration Service run.
- Machines where Informatica client software is installed.

When you create an ODBC data source, you must also specify the driver to which the ODBC driver manager sends database calls. The ODBC driver varies based on the operating system platform.

The following table lists the SAP HANA ODBC driver for different platforms:

Platform	SAP HANA ODBC Driver
32-bit Windows	HDBODBC32
64-bit Windows	HDBODBC
64-bit UNIX	libodbcHDB The file extension varies based on the UNIX platform.

Create an ODBC Data Source on Windows

On Windows, you use the ODBC Data Source Administrator to create an ODBC data source.

1. Select **Start > Administrative Tools > Data Source (ODBC)**.
2. Click the **System DSN** tab.
3. Create an ODBC data source with driver HDBODBC for 64-bit Windows or driver HDBCODBC32 for 32-bit Windows.

Create an ODBC Data Source on UNIX

On UNIX, you set the ODBCHOME, ODBCINI, and shared library environment variables. You also add data source entries to the odbc.ini file found in the system \$ODBCHOME directory.

Set the environment variables as follows:

ODBCHOME

Set the variable to the ODBC installation directory. For example:

```
setenv ODBCHOME /export/home/qamercury/Informatica/9.5.1/ODBC7.0
```

ODBCINI

Set the variable to point to the directory that contains the odbc.ini file. For example:

```
setenv ODBCINI /export/home/qamercury/MBUGB_ODBCINI/9.5.1/odbc.ini
```

LD_LIBRARY_PATH, LIBPATH, or SHLIB_PATH

Set the shared library environment variable to the directory where the SAP HANA ODBC driver is installed. For example:

```
setenv LD_LIBRARY_PATH  
".:${PM_HOME}:${JAVA_HOME}/lib:${ORACLE_HOME}/lib:/usr/sap/hdbclient:"
```

After you set environment variables, add data source entries to the odbc.ini file found in the system \$ODBCHOME directory.

For SAP HANA, add the following entry to the odbc.ini file:

```
[SAP HANA source]  
Driver=/usr/sap/hdbclient/libodbcHDB.so  
DriverUnicodeType=1  
ServerNode=<server_node>:<port>
```

Note: The operating system user that runs Informatica processes must have read and execute permissions on the SAP HANA ODBC driver file.

Step 3. Create ODBC Connections in Informatica Clients

To configure a connection to an SAP HANA database, you must create ODBC connections in the Informatica client tools that you use. Create an ODBC connection for each SAP HANA database with which the client communicates.

Create a Relational ODBC Connection in PowerCenter

In PowerCenter, you use the Workflow Manager to create connections. For SAP HANA, create a relational connection of subtype ODBC.

ODBC Connection Properties for SAP HANA

When you create a connection, you must configure connection properties.

The following table describes the connection properties:

Property	Description
Name	Name you want to use for this connection. The connection name cannot contain spaces or other special characters, except for the underscore.
Type	Read-only. Type of database. For SAP HANA, this property should be set to ODBC.
User Name	Database user name with the appropriate read and write database permissions to access the database. To define the user name in the parameter file, enter session parameter \$ParamName as the user name, and define the value in the session or workflow parameter file. The Integration Service interprets user names that start with \$Param as session parameters.

Property	Description
Use Parameter in Password	Indicates that the password for the database user name is a session parameter, \$ParamName. Define the password in the workflow or session parameter file, and encrypt it by using the pmpasswd CRYPT_DATA option. Default is disabled.
Password	Password for the database user name. Must be in 7-bit ASCII.
Connect String	Connect string used to communicate with the SAP HANA database.
Code Page	Code page the Integration Service uses to read from a source database or write to a target database or file.
Connection Environment SQL	Runs an SQL command with each database connection. Default is disabled.
Transaction Environment SQL	Runs an SQL command before the initiation of each transaction. Default is disabled.
Connection Retry Period	Number of seconds the Integration Service attempts to reconnect to the database if the connection fails. If the Integration Service cannot connect to the database in the retry period, the session fails. Default value is 0.

Creating an ODBC Connection in the Workflow Manager

When you create a connection object, choose the connection type in the Connection Browser. ODBC connections have connection subtypes. For SAP HANA, create a relational connection with subtype ODBC.

1. Click **Connections > Relational**.
2. Click **New**.
3. Select a subtype of **ODBC**.
4. Click **OK**.
5. Configure the connection properties.
6. Click **OK**.

Create an ODBC Connection in the Administrator Tool, Analyst Tool, or Developer Tool

Use the Administrator tool, Analyst tool, or Developer tool to create an ODBC connection to an SAP HANA database. The method that you use to create the connection varies based on the tool.

ODBC Connection Properties for SAP HANA

When you create a connection, you must configure connection properties.

The following table describes the connection properties:

Property	Description
User Name	User name for the SAP HANA database.
Password	Password for the user name.
Connect String	Connection string to connect to the database.
Code Page	Database code page.
Environment SQL	Optional. Enter SQL commands to set the database environment when you connect to the database. The Data Integration Service executes the connection environment SQL each time it connects to the database.
Transaction SQL	Optional. Enter SQL commands to set the database environment when you connect to the database. The Data Integration Service executes the transaction environment SQL at the beginning of each transaction.
Retry Period	This property is reserved for future use.

Property	Description
SQL Identifier Character	The type of character used to identify special characters and reserved SQL keywords, such as WHERE. The Data Integration Service places the selected character around special characters and reserved SQL keywords. The Data Integration Service also uses this character for the Support Mixed-Case Identifiers property.
Support Mixed-Case Identifiers	When enabled, the Data Integration Service places identifier characters around table, view, schema, synonym, and column names when generating and executing SQL against these objects in the connection. Use if the objects have mixed-case or lowercase names. By default, this option is not selected.
ODBC Provider	Type of database to which ODBC connects. For SAP HANA, select Other .

Creating an ODBC Connection in the Administrator Tool

The Data Integration Service uses database connections to process integration objects for the Analyst tool and the Developer tool. Integration objects include mappings, data profiles, scorecards, and SQL data services.

1. Select the **Domain** tab, and click **Connections**.
2. In the Domain Navigator, click **Actions > New > Connection**.
3. Select the connection type **ODBC**.
4. Click **OK**.
5. Configure the connection properties.
6. Click **Test Connection** to verify the connection.
7. Click **Finish**.

Creating an ODBC Connection in the Analyst Tool

Create a connection to import relational data objects, preview data, run a profile on data, and run mappings. The Analyst tool uses the connection when you import a data object. The Data Integration Service uses the connection when you preview data, run a profile, or run mappings.

1. Click **Manage > Connections**.
2. Click **New**.
3. Enter a connection name, ID, optional description, and select database type **ODBC**.
4. Choose whether you need a **Simple Connection** or **Advanced Connection**.
If you choose an advanced connection, you need to fill in more connection information fields.
5. Configure the connection properties.
6. Click **OK**.

The Analyst tool tests the connection and displays the test status.

Creating an ODBC Connection in the Developer Tool

Create a connection before you import data objects, preview data, profile data, or run mappings.

1. Click **Window > Preferences**.
2. Select **Informatica > Connections**.
3. Expand the domain in the **Available Connections** list.
4. Select **Databases > ODBC**.
5. Click **Add**.
6. Enter a connection name and optional description.
7. Click **Next**.
8. Configure the connection properties.
9. Click **Test Connection** to verify the connection.
10. Click **Finish**.

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